



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D206-642-541
Job Sheet 187872



Part No: D206-642-541

Job Qty: 1 ea

Part Name: Repl.Skid.,High Gear,Std Wearplates Fits LH/RH, DART Tri-Bag Float Comp.



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 12/18/18

Job Tracking No:

Due Date: 1/31/19

Created By: Jesse White

Type: Stock

Description:

Note: DWG REV G IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC IPP Rev:F 08-06-02 add comment DD verified by:EC IPP Rev:G 08-10-09 revise details DD verified by:EC IPP REV:H 13.09.05 CHG004/ ECN13-634 DD VERF:JLM IPP REV:I 14.04.28 AS PER ECN14-520 DD VERF:JLM

Ship Via:

Bill of Materials



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Container No: S138956



Part: D206-642-541

Job No: 187872

Serial No/Batch: S138956

Revision:

Inspector:

Exp Date:

Instructions: TC STC SH98-4 Issue 2, FAA STC SA00475SE 15/10/28, EASA STC

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date : _____	Sequence #: _____	QTY Affected : _____		MRB (QSI042)	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor		
			QC / QA Coordinator		
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details: _____					

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		1/31/19	0.00	0.00	Start Up Skid tubes-1		TE
110	Skid tubes	1 pcs		1/31/19	0.00	2.17	Skid tubes-2		TE DAS
114	QC	1 pcs		1/31/19	0.00	0.00	QC5		38 DAS
116	QC	1 pcs		1/31/19	0.00	0.00	QC10		9-89 38
120	HandFinish	1 pcs		1/31/19	0.00	0.68	HandFinish1		D.R. 19/01/08
130	QC	1 pcs		1/31/19	0.00	0.00	QC7-1		M66
150	Skid tubes	1 pcs		1/31/19	0.00	2.08	Skid tubes-2		TE
160	QC	1 pcs		1/31/19	0.00	0.00	QC5		BE
170	Skid tubes	1 pcs		1/31/19	0.00	2.17	Skid tubes-2 #1 M66		TE
180	QC	1 pcs		1/31/19	0.00	0.00	QC5		BE
190	Skid tubes	1 pcs		1/31/19	0.00	2.75	Skid tubes-3		BE J.4
200	QC	1 pcs		1/31/19	0.00	0.00	QC5		PD 19-02-05
210	QC	1 pcs		1/31/19	0.00	0.00	QC10		PD 19-02-05
220	HandFinish	1 pcs		1/31/19	0.00	0.45	HandFinish2		ML 19-02-05
230	SprayPaint	1 pcs		1/31/19	0.00	0.40	Spray Paint		R.D. 19-2-14
235	Outsource	1 pcs		1/31/19			ATE003-VC	5	NR
240	QC	1 pcs		1/31/19	0.00	0.00	QC14		ML 19-2-14
244	HandFinish	1 pcs		1/31/19	0.00	0.50	HandFinish3		ML 19-2-14
246	QC	1 pcs		1/31/19	0.00	0.00	QC3		JH
250	HandFinish	1 pcs		1/31/19	0.00	0.45	HandFinish4		ML 19-2-20
260	QC	1 pcs		1/31/19	0.00	0.00	QC5		PD 19-02-20
270	HandFinish	1 pcs		1/31/19	0.00	0.68	HandFinish4		Deice 2nd
280	QC	1 pcs		1/31/19	0.00	0.00	QC5		PD 19-02-22
290	Packaging	1 pcs		1/31/19	0.00	0.00	Packaging3-1		2146 FEB 2 5 2019
295	DC	1 pcs		1/31/19	0.00	0.00	DC		9-89-89 FEB 2 6 2019
300	QC21-FG	1 Ea		1/31/19	0.00	0.00	QC21		DAS FEB 2 6 2019

Part Op 110 - ****VERIFY AND INSPECT THE MATERIAL PRIOR TO USE**** 1- remove fwd indexing ridge as per dwg D3274.

Descriptions: Prepare for welding 2- weld fwd cap as per dwg D3274 and QSI004 AR Aluminum Rod Batch: 138673/M136128 3- grind fwd cap weld on top surface only 4- Cut AFT end of tube at 170.9" as per dwg D3274 and deburr end. 5-Drill Aft cap pilot hole using DT8025 6 -Cleco DT8025 in position and install pilot hole drill Jig DT8742A,B,C,D and DT8742. Drill 3/16" pilot holes as per Dwg D3274 7 -Remove inner indexing ridge on aft end of skid tube as per Dwg D3274 scribe batch # 8 - Open aft end cap holes to Ø0.208" as per Dwg D3274. Deburr aft end.

Sikaflex
M138984
exp: 03/07/19

AIR
136158

150 - 1-Open Ø0.313" and 0.375" crossbolt spacer holes as per Dwg D3274 2-Deburr crossbolt spacer holes as per Dwg D3274 and blow out chips from inside the tube 3-Bond web in place as per Dwg D3274 & QSI 015. (Adhere for 12 hours)

170 - 1-Bend AFT end of tube using bend prog. D3274 AFT as per dwg D3274. Install drop pins in crossbolt spacer holes to maintain web position. 2- DRILL PILOT HOLES FOR WEARPLATES USING D3274-1T2 OPEN HOLES TO .297" . Deburr 3-DRILL TOE PIN HOLE .640" DIA AS PER DWG USING DT8935 FWD END OF TUBE DEBURR INSIDE OF HOLE AS NECESSARY (DO NOT ENLARGE HOLES) REMOVE ANY FOREIGN OBJECTS INSIDE OF TUBES 4- Countersink crossbolt spacer holes as per Dwg D3274 5- prepare for welding

190 - 1-Insert D2649 & D3275-1 crossbolt spacers. Weld as per QSI 004 and Dwg D3274. Remember to back drill each hole before welding the other side. Use aluminum rod 3-Grind cross bolt welds flush as per Dwg D3274. ****INSPECT FOR PIN HOLES IN WELD**** 4-Counterbore 5/16" x 0.750" deep as per Dwg D3274 and deburr.

220 - Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch

230 - Make sure Nut Plate Thread is protected using paint screw. 1- PRIME AS PER DWG AND QSI 005 4.2 PRIMER PRC DESOTO 515X349 BATCH: 5125794 2- PAINT WHITE AS PER DWG AND QSI 005 4.2 PAINT BATCH: 5146086

250 - 1-Install Nut Plate as per Dwg D3274. Apply LPS-PROCYON to Nut Plate and rivets.

260 - Inspect Nut Plate & Inserts

270 - 1-Install wearpads as per Dwg D3274. 2-Install ring as per Dwg D3274 3-Inspect for foreign objects as per QSI 024 4-Install Aft Cap and seal with Sikaflex. Clean excess adhesive.

290 - Location : FG073

295 - Photocopy bluefile & type labels per PPP D206-642-541 CHG005

300 - 4-Counterbore 5/16" x 0.750" deep as per Dwg D3274 using DT10280 and deburr.

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Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
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Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D3274-041BENT	Skidtube Assembly 206	1 pcs (1 ea)	90-Start up Operation	5107607
D3285-1	Cap	1 pcs (1 ea)	90-Start up Operation	5012403
D3282-041	Float Web (206L/407)	1 pcs (1 ea)	150-Skidtubes	5118224
D2649	Cross Bolt Spacer	12 pcs (12 ea)	190-Skidtubes	5050570
D3275-1	Cross Bolt Spacer	12 pcs (12 ea)	190-Skidtubes	5037179x11
ALS4-1032-130	Rivnut	78 Ea (78 ea)	250-HandFinish	5067279
CCR264SS3-3	Cherry Rivet	2 Ea (2 ea)	250-HandFinish	F11137622
CR3212-4-03	Cherry Rivet	2 Ea (2 ea)	250-HandFinish	F11137886-0
D3415-041	Nut Plate	1 pcs (1 ea)	250-HandFinish	F147134
AN3C4A	Bolt	80 Ea (80 ea)	270-HandFinish	5152638
AN4C5A	Bolt	1 Ea (1 ea)	270-HandFinish	5057496
D2646	Aft Cap	1 pcs (1 ea)	270-HandFinish	F165018
D3413-1	O-Ring	1 pcs (1 ea)	270-HandFinish	5006482
D3537-1	Wearpad	9 pcs (9 ea)	270-HandFinish	5097216
D3537-3	Wearpad	1 pcs (1 ea)	270-HandFinish	5013552
D3672-1	Washer, Phenolic	2 pcs (2 ea)	270-HandFinish	F164009
D4956-15	Wearplate Fwd	1 Ea (1 ea)	270-HandFinish	5057044
D4956-23	Wearplate Center Fwd	1 Ea (1 ea)	270-HandFinish	5026880
D4956-35	Wearplate Aft	1 Ea (1 ea)	270-HandFinish	5057062
D4956-39	Wearplate Center Aft	1 Ea (1 ea)	270-HandFinish	512096d
NAS1149C0332R	Washer	80 Ea (80 ea)	270-HandFinish	5140513
NAS1149C0463R	Washer	1 Ea (1 ea)	270-HandFinish	5101324

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D3274-041BENT	1	12	0
	D3285-1	1	22	0
150-Skidtubes	D3282-041	1	8	0
190-Skidtubes	D2649	12	96	0
	D3275-1	12	68	0
250-HandFinish	ALS4-1032-130	78	10,326	0
	CCR264SS3-3	2	291	0
	CR3212-4-03	2	150	0
	D3415-041	1	15	0
270-HandFinish	AN3C4A	80	1,065	0
	AN4C5A	1	48	0
	D2646	1	32	0
	D3413-1	1	49	0
	D3537-1	9	127	0
	D3537-3	1	31	0
	D3672-1	2	1,959	0
	D4956-15	1	12	0
	D4956-23	1	13	0
	D4956-35	1	8	0
	D4956-39	1	7	0
	NAS1149C0332R	80	2,333	0
	NAS1149C0463R	1	490	0

Part Specifications

Specifications could not be found.

Plex 12/18/18 4:02 PM dart.white.jesse

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

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Description Work Order Deviation		Disposition		Completed By	
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Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled		FAULT CATEGORY ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

Qty -041	Qty -043	Qty -045	Part Number	Description
X			D3274-041	SKIDTUBE ASSEMBLY
	X		D3274-043	SKIDTUBE ASSEMBLY
		X	D3274-045	SKIDTUBE ASSEMBLY (FOR PHI)
1	1	1	D2600-1-240	EXTRUSION
1	1	1	D2646	AFT CAP
12	12	12	D2649	CROSS BOLT SPACER
12	37	12	D3275-1	CROSS BOLT SPACER
1	1	1	D3282-041	FLOAT WEB
1	1	1	D3285-1	CAP
1	1	1	D3413-1	RING
1	1	1	D3415-041	NUT PLATE
9	9		D3537-1	WEARPAD
		1	D3537-11	WEARPAD
1	1		D3537-3	WEARPAD
		9	D3537-9	WEARPAD
2	2	2	D3672-1	WASHER
1	1		D4956-15	WEARSHOE
1	1		D4956-23	WEARSHOE
1	1		D4956-35	WEARSHOE
1	1		D4956-39	WEARSHOE
78	78	40	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, AELS-1032-130)
80	80	42	AN3C4A	BOLT
1	1		AN4CSA	BOLT
1	1	1	NAS1149C0463R	WASHER (AN860C418)
80	80	42	NAS1149C0332R	WASHER (AN860C10L)
2	2	2	CCR264SS3-3	RIVET
2	2	2	CR3212-4-03	RIVET
		1	MS27039C4-06	SCREW

GENERAL NOTES:

1. MATERIAL: N/A

2. FINISH:

ON -041/-043: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSTALLING D3282-041 WEB PRIME (REF. 4.2.1.3.3) OUTSIDE ONLY AND PAINT WHITE PER DART QSI 005 4.2 BLACK ANTI-SKID PAINT AS INDICATED TO 0.5" ABOVE LOCATION RIDGE PER DART QSI 005 4.4

ON -045: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSTALLING D3282-041 WEB PRIME (REF. 4.2.1.3.3) INSIDE AND OUTSIDE PER QSI 005 4.2.1 PAINT BLACK PER QSI 005 4.2.2 USING CA8213/F37038 CAMOFLAGE BLACK PER MIL-PRF-05285E TYPE I CLASS H. BLACK ANTI-SKID PAINT AS INDICATED TO 0.5" ABOVE LOCATION RIDGE PER DART QSI 005 4.4

3. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.

4. UNITS: INCHES UNLESS OTHERWISE NOTED

5. BREAK SHARP EDGES 0.005 TO 0.010 MAX

6. IDENTIFICATION: N/A

7. WEIGHT: FOR -041/-043 = 37.5 LBS

FOR -045 = 33.4 LBS

8. WELDING TO BE DONE PER DART QSI 004.

9. ALL HOLES DRILLED ON CENTERLINES.

10. DAMAGE TOLERANCE ON FWD BEND:

THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 7 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020" DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.

11. BOND D3282-041 FLOAT WEB INTO D3274-1/3 OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015. ENSURE HOLES LINE-UP.

12. DRILL 20.297 HOLES FOR ALS7-1032-130 INSERTS USING DT3274-1T2 BEFORE FINISH. INSTALL ALS7-1032-130 INSERTS AFTER FINISH. SEAL WEARSHOE BOLTS WITH SIKAFLEX-241/291. ON -045, DO NOT DRILL HOLES OR INSTALL INSERTS FOR LONG WEARPLATES.

13. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS GREASE WITH WASH 'N WIPE DEGREASER.

14. ON -045, APPLY COAT OF ROCKGUARD TO SKIDTUBE WHERE WEARPADS ARE INSTALLED.

G	ADD -045 CONFIGURATION (FOR PHI) ZN A5-4, A5-6 REVISE NOTE 2, 7 & 12, ADD NOTE 14 (ZN A8-1)	DS	16.04.25
F	REVISE NOTE 2: ADD ANTI-SKID PAINT, REMOVE GASKETS PER IIN-D206-642 REV Q	DB	14.04.15
E	REVISE NOTE 2: FINISH NOW PRIME/PAINT WAS POWDERCOAT, REF. PAR13-256	DW	13.05.17
D	NEW INSERTS, SS WEARSHOE + GASKET	CP	06.12.19
C	ADD -043; NEW INSERTS	CP	05.03.16
B	MOVE SADDLE HOLE: 42.14 WAS 42.76	CP	04.08.09
A	NEW ISSUE	CP	04.03.15
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE USA, INC EUGENE, OR	
DRAWN	RF		
CHECKED	AK	DRAWING NO.	REV. G
MFG. APPR.	JLM	D3274	SHEET 1 OF 6
APPROVED	DS	TITLE	SCALE
DE APPR.	DS	SKIDTUBE ASSEMBLY	NTS
DATE	16.04.25	COPYRIGHT © 2004 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

RELEASED
2016-07-26
ECN 16-616

Entered: _____ Date: _____

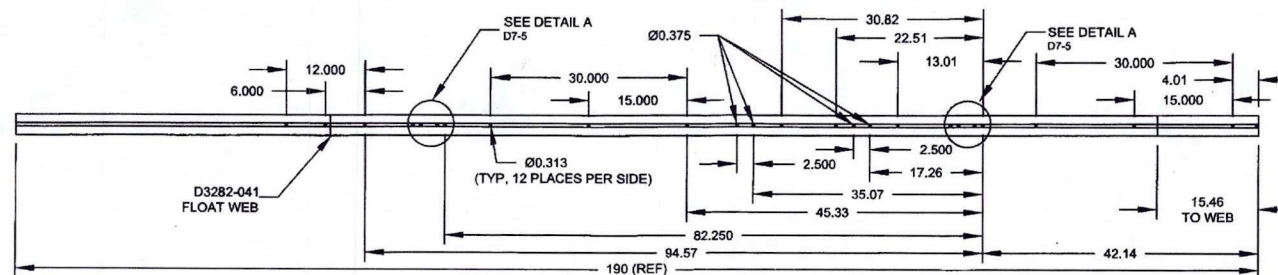


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

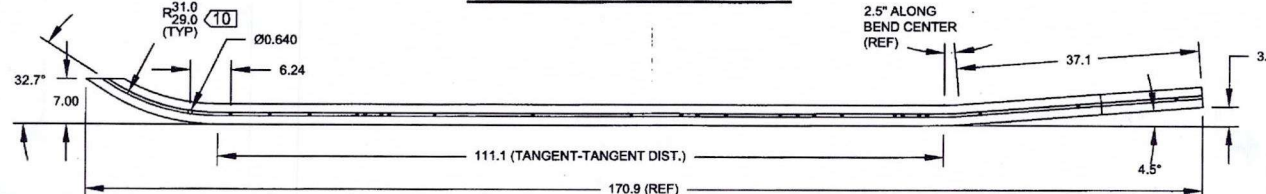
NCR No. _____

Route update only ☐

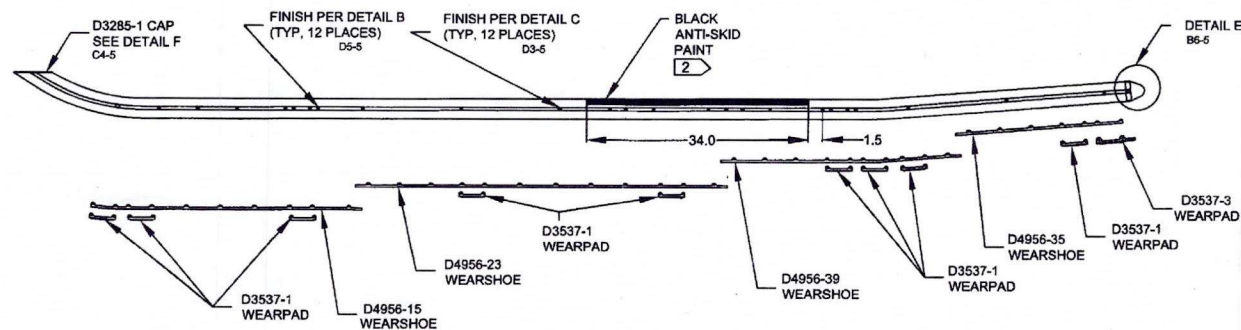
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Other/Details:					



D3274-041 DRILLING/ASSEMBLY DETAIL



D3274-041 BEND/DRILLING DETAIL



**D3274-041 SKIDTUBE ASSEMBLY
(SEE DETAIL D FOR WEARSHOE INSTALLATION)**

RELEASED
2016-07-26

DESIGN	CP	DART AEROSPACE USA, INC	
DRAWN	RF	EUGENE, OR	
CHECKED	AK	DRAWING NO.	REV. G
MFG. APPR.	JLM	D3274	SHEET 2 OF 6
APPROVED	DS	TITLE	SCALE
DE APPR.		SKIDTUBE ASSEMBLY	NTS
DATE	16.04.25	COPYRIGHT © 2004 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

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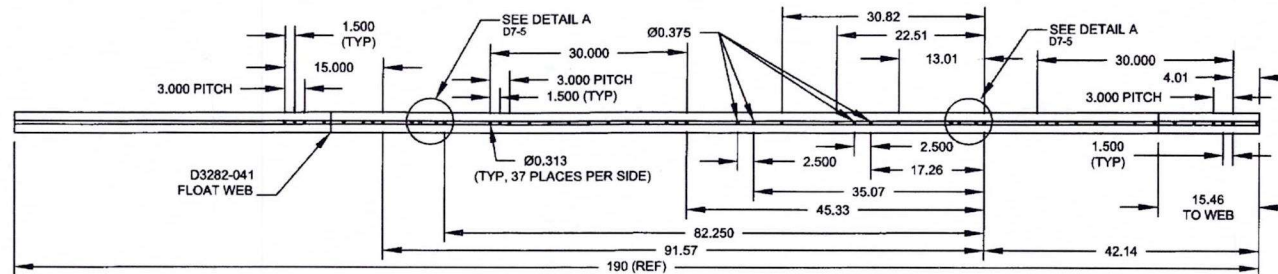


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

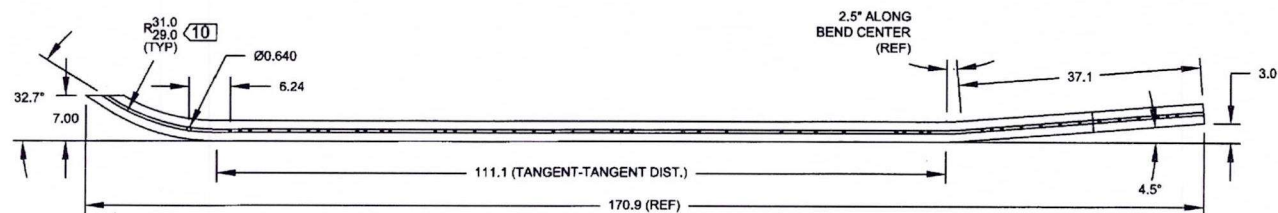
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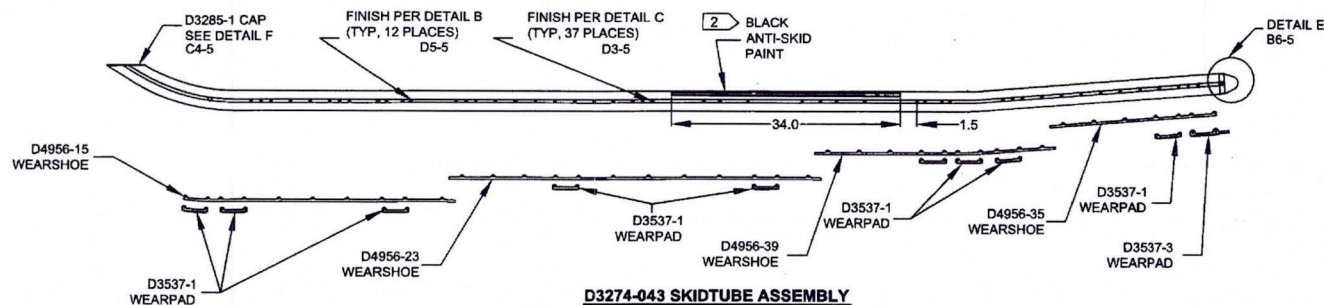
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Date : _____	Sequence #: _____	QTY Affected : _____		MRB (QSI042) _____	
Description Work Order Deviation		Disposition		Completed By	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled		FAULT CATEGORY ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details: _____					



D3274-043 DRILLING/ASSEMBLY DETAIL



D3274-043 BEND/DRILLING DETAIL



**D3274-043 SKIDTUBE ASSEMBLY
(SEE DETAIL D FOR WEARSHOE INSTALLATION)**

RELEASE
2016-07-26

DESIGN	CP	DART AEROSPACE USA, INC	
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CHECKED	AK	DRAWING NO.	REV. C
MFG. APPR.	JLM	D3274	SHEET 3 OF 6
APPROVED	DS	TITLE	SCALE
DE APPR.	#	SKIDTUBE ASSEMBLY	NTS
DATE	16.04.25	COPYRIGHT © 2004 BY DART AEROSPACE USA, INC	
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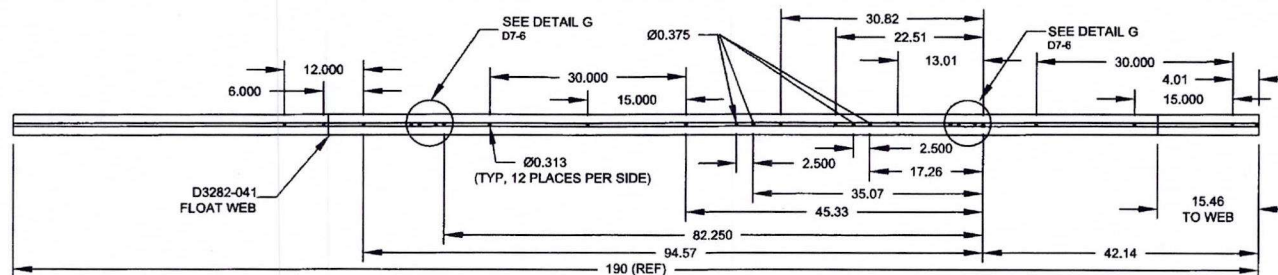


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

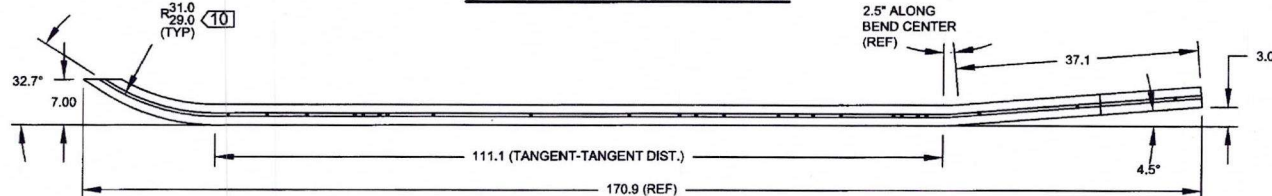
NCR No. _____

Route update only ☐

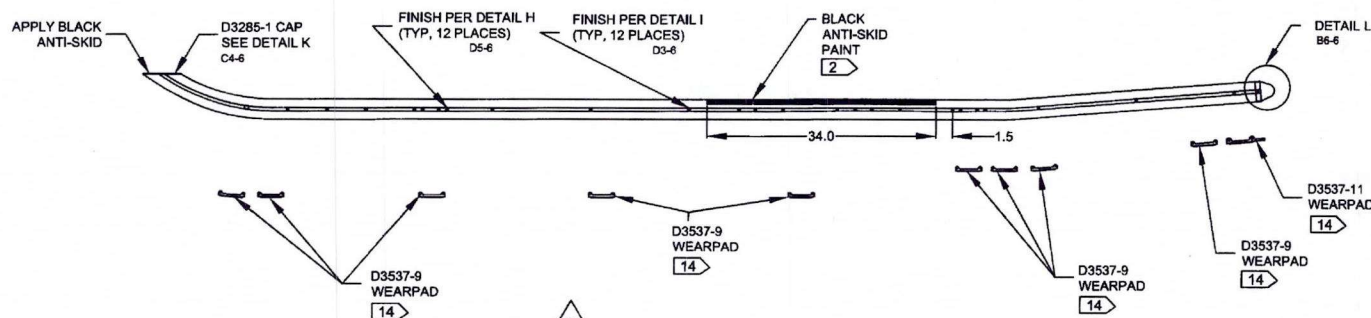
Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor		
			QC / QA Coordinator		
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					



D3274-045 DRILLING/ASSEMBLY DETAIL



D3274-045 BEND/DRILLING DETAIL



D3274-045 SKIDTUBE ASSEMBLY
(SEE DETAIL J FOR WEARSHOE INSTALLATION)

RELEASED
2016-07-26

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MFG. APPR.	JLM	D3274	SHEET 4 OF 6
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DE APPR.		SKIDTUBE ASSEMBLY	NTS
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WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

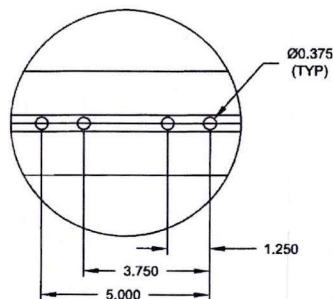
NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date : _____	Sequence #: _____	QTY Affected : _____		MRB (QSI042)	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor		
			QC / QA Coordinator		
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

DETAIL A: DRILL DETAIL

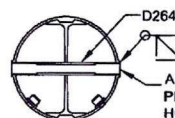
D6-2, D3-2, D5-3, D3-3



DETAIL B

B6-2, B5-3

FOR Ø0.375 HOLES ONLY



D2649 SPACER

- AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.375
HOLES ONLY:
1. CHAMFER HOLE 0.030x45°
 2. INSERT D2649 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. C'BORE TO Ø0.313x0.75 DEEP

DETAIL C

B5-2, B4-3

FOR Ø0.313 HOLES ONLY



D3275-1 SPACER

CHAMFER 0.030x45°
(TYP)

DETAIL D

A4-2, A4-3

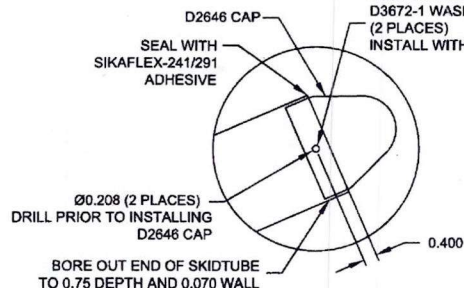


- ALST-1032-130 INSERT (1)
AN3C4A BOLT (1)
NAS1149C0332R WASHER (1)
(78 PLACES)

WEARSHOE/WEARPAD (REF)

DETAIL E

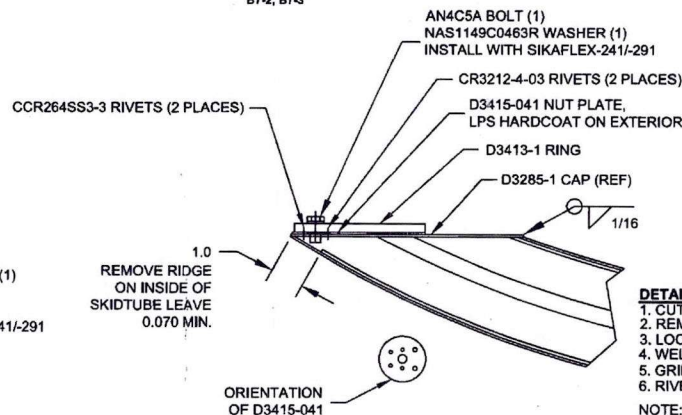
B2-2, B2-3



- AN3C4A BOLT (1)
NAS1149C0332R WASHER (1)
D3672-1 WASHER (1)
(2 PLACES)
INSTALL WITH SIKAFLEX-241/291

DETAIL F: END FINISHING DETAIL

B7-2, B7-3



DETAIL F NOTES

1. CUT TUBE LEVEL
 2. REMOVE RIDGE ON FWD SIDE
 3. LOCATE D3285-1 (TRIM AS NECESSARY)
 4. WELD D3285-1 IN PLACE PER DART QSI 004
 5. GRIND FLUSH
 6. RIVET D3415-041 NUT PLATE IN PLACE
- NOTE: MASK THREADS IN D3415-041
PRIOR TO FINISH

-041/-043 DETAILS

RELEASED
2016-07-26

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DE APPR.		SKIDTUBE ASSEMBLY	NTS
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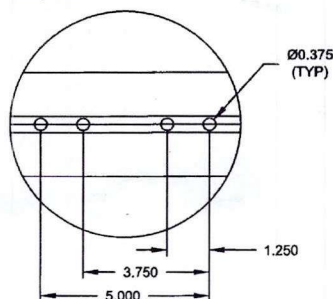
WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

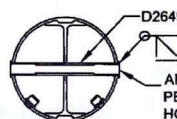
Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled		FAULT CATEGORY ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

DETAIL G: DRILL DETAIL
D6-4, D3-4



DETAIL H
B6-4

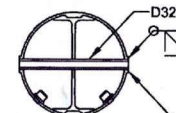
FOR Ø0.375 HOLES ONLY



AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.375
HOLES ONLY:
1. CHAMFER HOLE 0.030x45°
2. INSERT D2649 SPACER
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE TO Ø0.313x0.75 DEEP

DETAIL I
B5-4

FOR Ø0.313 HOLES ONLY



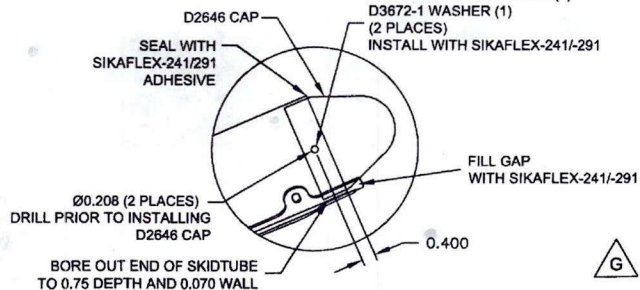
CHAMFER 0.030x45°
(TYP)

DETAIL J
A4-4

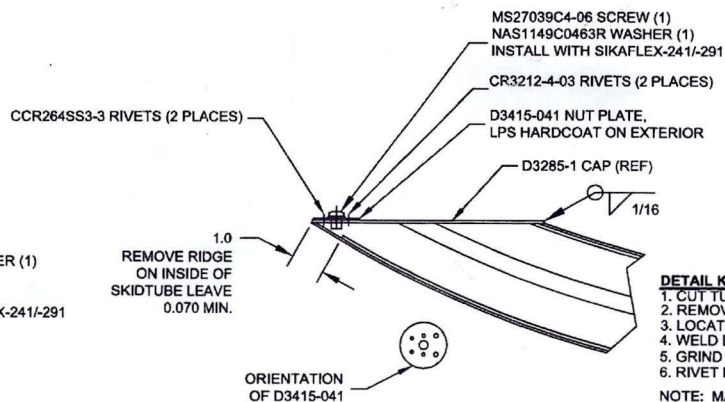


ALS7-1032-130 INSERT (1)
AN3C4A BOLT (1)
NAS1149C0332R WASHER (1)
(40 PLACES)
WEARPAD (REF)

DETAIL L
B2-4



DETAIL K: END FINISHING DETAIL
B7-4



DETAIL K NOTES

1. CUT TUBE LEVEL
 2. REMOVE RIDGE ON FWD SIDE
 3. LOCATE D3285-1 (TRIM AS NECESSARY)
 4. WELD D3285-1 IN PLACE PER DART QSI 004
 5. GRIND FLUSH
 6. RIVET D3415-041 NUT PLATE IN PLACE
- NOTE: MASK THREADS IN D3415-041
PRIOR TO FINISH

G -045 DETAILS

RELEASED
2016-07-26

DESIGN	CP	DART AEROSPACE USA, INC	
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Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date : _____	Sequence #: _____	QTY Affected : _____		MRB (QSI042) _____	
Description Work Order Deviation		Disposition		Completed By	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled		FAULT CATEGORY ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details: _____					